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TC 1700

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Patent

Attorney's Docket No. 003510-081

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)
Junichi YAMANOUCHI et al) Group Art Unit: 1714
Application No.: 09/800,776) Examiner: Callie E. Shosho
Filed: March 8, 2001) Confirmation No.: 8385
For: COLORING COMPOSITION, INK-JET)
INK AND INK JET RECORDING)
METHOD)

AMENDMENT/REPLY TRANSMITTAL LETTER

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

Enclosed is an Amendment for the above-identified patent application.

- A Petition for Extension of Time is also enclosed.
- A Terminal Disclaimer and a check for [] \$55.00 (2814) [] \$110.00 (1814) to cover the requisite Government fee are also enclosed.
- Also enclosed is Certified English-language translations of priority application Nos. JP-2000-078518 and JP 2000-203856; Declaration Under 37 C.F.R. §1.132
- Small entity status is hereby claimed.
- Applicant(s) request continued examination under 37 C.F.R. § 1.114 and enclose the [] \$370.00 (2801) [] \$740.00 (1801) fee due under 37 C.F.R. § 1.17(e).
- Applicant(s) previously submitted ___, on ___, for which continued examination is requested.
- Applicant(s) request suspension of action by the Office until at least ___, which does not exceed three months from the filing of this RCE, in accordance with 37 C.F.R. § 1.103(c). The required fee under 37 C.F.R. § 1.17(i) is enclosed.
- A Request for Entry and Consideration of Submission under 37 C.F.R. § 1.129(a) (146/246) is also enclosed.

[X] No additional claim fee is required.

[] An additional claim fee is required, and is calculated as shown below:

AMENDED CLAIMS					
	NO. OF CLAIMS	HIGHEST NO. OF CLAIMS PREVIOUSLY PAID FOR	EXTRA CLAIMS	RATE	ADDT'L FEE
Total Claims	18	MINUS 20 =	0	× \$18.00 (1202) =	0.00
Independent Claims	3	MINUS 3 =	0	× \$84.00 (1201) =	0.00
If Amendment adds multiple dependent claims, add \$280.00 (1203)					0.00
Total Amendment Fee					0.00
If small entity status is claimed, subtract 50% of Total Amendment Fee					0.00
TOTAL ADDITIONAL FEE DUE FOR THIS AMENDMENT					0.00

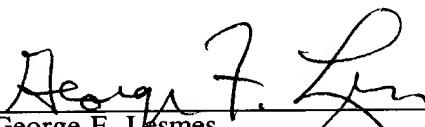
[] A claim fee in the amount of \$_____ is enclosed.

[] Charge \$_____ to Deposit Account No. 02-4800.

The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17, 1.20(d) and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: 
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Date: July 28, 2003



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In re Patent Application of:

JUL 30 2003

YAMANOUCHI et al.

TC 1700

Group Art Unit: 1714

Application No.: 09/800,776

Examiner: SHOSHO, CALLIE E.

Filed: March 8, 2001

Title: COLORING COMPOSITION, INK-JET INK AND INK JET RECORDING
METHOD

DECLARATION PURSUANT TO 37 C.F.R. §1.132

Honorable Commissioner of Patents and Trademarks

Washington, D.C. 20231

Sir:

I, Junichi YAMANOUCHI, do declare and state as follows:

I graduated from Graduate School of Tokyo University with a Master's Degree in Engineering (Industrial Chemistry) in March 1982;

I joined Fuji Photo Film Co., Ltd. (hereinafter "Fuji") in April 1982, I have been engaged in the research and development of polymeric materials for photography at Fuji's Ashigara Laboratory, and now I am engaged in the research and development of polymeric materials at Fuji's Ashigara Laboratory as a manager;

I am a co-inventor of the subject matter disclosed and claimed in the above-identified application; and

I am familiar with the Office Action of March 28, 2003, and understand the Examiner's rejections therein.

The following additional comparative experiments were carried out by me or under my supervision in order to make the advantages of the subject matter more clear.

EXPERIMENTS

Experiments were conducted to evaluate ink properties between ink sets that were prepared using a nonionic polymer as disclosed in the present invention and ink sets that were prepared using an ionic polymer as set forth by *Meyrick et al.* (U.S. patent No. 6,344,497).

Production of Ionic Polymer

An ionic polymer was prepared in a similar manner to Example 1 of *Meyrick et al.* The obtained polymer, that bore ionised sulphonate groups as set forth at column 1, lines 59 - 67, was a polyester having a molar ratio of neopentyl glycol/diethylene glycol/isophthalic acid/sodio-5-sulpho-isophthalic acid/adipic acid/methoxy PEG 750/sodium acetate = 38.1/15.0/34.6/5.4/5.0/1.9/0.03.

Production of Ink Set

Ink Set 114 of Comparative Example was produced by repeating the production procedure of Ink Set 101 of the present invention, except that instead of a nonionic polymer (the illustrative compound P-5), the above-obtained ionic polymer was used.

Ink Set 115 of Comparative Example was produced by repeating the production procedure of Ink Set 107 of the present invention, except that instead of a nonionic polymer (the illustrative compound P-3), the above-obtained ionic polymer was used.

Evaluation of Ink Set

The produced Ink Sets 101 and 107 of the present invention and Ink Sets 114 and 115 of Comparative Example were evaluated for the ink properties, such as: printing ability (1); printing ability (2); drying property; blotting of narrow lines (1); blotting of narrow lines (2); water resistance; over-abrasion property; paper dependency; light fastness; and humidity heat fastness, as described in Example 1 of the specification of the present application. Incidentally, humidity heat fastness was assessed after storage for 7 days and 14 days, respectively, under the conditions of 80°C and 70% RH.

RESULTS

Ink Sets 101 and 107 of the present invention exhibited excellent results in printing ability (1); printing ability (2); drying property; blotting of narrow lines (1); blotting of narrow lines (2); water resistance; over-abrasion property; paper dependency; and light fastness, as summarized in Tables 7 and 8 of the specification of the present application. Ink Sets 101 and 107 also exhibited excellent results in humidity heat fastness, represented by a score of "A" with respect to all of the yellow, magenta, cyan and black colors, even after storage for 14 days.

Ink Sets 114 and 115 of Comparative Example, which were prepared using the ionic polymer, exhibited good results in printing ability (1); printing ability (2); drying property; blotting of narrow lines (1); blotting of narrow lines (2); water resistance; over-abrasion property; paper dependency; and light fastness. However, Ink Sets 114 and 115 exhibited poor results in humidity heat fastness, as shown in the table below.

TABLE
Evaluation of Humidity Heat Fastness after Storage for 14 Days

Ink Set	Yellow Ink	Magenta Ink	Cyan Ink	Black Ink
101 (P.I.)	A	A	A	A
107 (P.I.)	A	A	A	A
114 (C.E.)	B	A	A	B
115 (C.E.)	C	B	B	B

Note: P.I.: Present Invention; C.E.: Comparative Example

CONCLUSION

The foregoing results demonstrate that co-existence of the ionic polymer which bears ionised sulphonate groups, impairs the ink property of humidity heat fastness of ink sets of Comparative Example, presumably due to ease in taking water therein, as compared to ink sets of the present invention prepared using the non-ionic polymer.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true,

and further, that these statements were *made* with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: July 16, 2003

Junichi Yamanouchi
Junichi YAMANOUCHI